

R15

Industrial Electromagnetic Relays



- Contacts AgNi
- For plug-in sockets, 35 mm rail mount or on panel mounting.
- Cadmium-free contacts-R15 DPDT, R15 3PDT, R15 4PDT relays
- WT (mechanical indicator and lockable front test button) - standard features of R15 DPDT, R15 3PDT relays in cover, for plug-in sockets.
- Relays may be provided with the test buttons (no latching) and plugs (see page 115).
- AUCOTEAM, GmbH Berlin - railway standards.



Contact Data

| Number and type of contacts | | DPDT | 3PDT | 4PDT |
|-----------------------------------|------|---|---|---|
| Contact material | | AgNi | AgNi | AgCdO |
| Rated / max. switching voltage AC | | 250 V / 440 V | 250 V / 440 V | 250 V / 440 V |
| Min. switching voltage | | 10 V | 10 V | 10 V |
| Rated load (capacity) | AC1 | 10 A / 250 V AC; 10 A / 277 V AC UL 508 | 10 A / 250 V AC; 10 A / 277 V AC UL 508 | 10 A / 250 V AC; 10 A / 277 V AC UL 508 |
| | AC15 | 3 A / 120 V; 1.5 A / 240 V (B300) | 3 A / 120 V; 1.5 A / 240 V (B300) | 3 A / 120 V; 1.5 A / 240 V (B300) |
| | AC3 | 370 W (single-phase motor. 1/2 HP / 240 V AC UL 508) | 370 W (single-phase motor. 1/2 HP / 240 V AC UL 508) | 370 W (single-phase motor. 1/2 HP / 240 V AC UL 508) |
| | DC1 | 10 A / 24 V DC (see Fig. 3) | 10 A / 24 V DC (see Fig. 3) | 10 A / 24 V DC (see Fig. 3) |
| | DC13 | 0.22 A / 120 V; 0.1 A / 250 V (R300) | 0.22 A / 120 V; 0.1 A / 250 V (R300) | 0.22 A / 120 V; 0.1 A / 250 V (R300) |
| Min. switching current | | 5 mA | 5 mA | 10 mA |
| Max. inrush current | | 20 A | 20 A | 20 A |
| Rated current | | 10A | 10A | 10A |
| Max. breaking capacity AC1 | | 2500 VA | 2500 VA | 2500 VA |
| Min. breaking capacity | | 0.3 W | 0.3 W | 0.5 W |
| Contact resistance | | ≤ 100 mΩ | ≤ 100 mΩ | ≤ 100 mΩ |
| Max. operating frequency | | | | |
| • at rated load | | 1200 cycles/hour | 1200 cycles/hour | 1200 cycles/hour |
| • no load | | 12000 cycles/hour | 12000 cycles/hour | 12000 cycles/hour |

Coil Data

| | | | | |
|-----------------------------------|-------------|--|--|--|
| Rated voltage | 50/60 Hz AC | 6 ... 240 V | 6 ... 240 V | 6 ... 240 V |
| | DC | 6 ... 220 V | 6 ... 220 V | 6 ... 220 V |
| Must release voltage | | AC: ≥ 0.15 U _n ; DC: ≥ 0.1 U _n | AC: ≥ 0.15 U _n ; DC: ≥ 0.1 U _n | AC: ≥ 0.15 U _n ; DC: ≥ 0.1 U _v |
| Operating range of supply voltage | | see page 68 | see page 68 | see page 68 |
| Rated power consumption | | AC: 2.8 VA 50 Hz; 2.5 VA 60 Hz; DC: 1.5 W | AC: 2.8 VA 50 Hz; 2.5 VA 60 Hz; DC: 1.5 W | AC: 2.8 VA 50 Hz; 2.5 VA 60 Hz; DC: 1.5 W |

Insulation

| | | | | |
|-----------------------------|--|---|---|---|
| Insulation rated voltage | | 250 V AC | 250 V AC | 250 V AC |
| Rated surge voltage | | 2500 V 1.2 / 50 μs | 2500 V 1.2 / 50 μs | 2500 V 1.2 / 50 μs |
| Overvoltage category | | III | III | III |
| Insulation pollution degree | | 3 | 3 | 3 |
| Dielectric strength | | | | |
| • between coil and contacts | | 2500 V AC type of insulation: basic | 2500 V AC type of insulation: basic | 2500 V AC type of insulation: basic |
| • contact clearance | | 1500 V AC type of clearance: micro-disco. | 1500 V AC type of clearance: micro-disco. | 1500 V AC type of clearance: micro-disco. |
| • pole - pole | | 2000 V AC type of insulation: basic | 2000 V AC type of insulation: basic | 2000 V AC type of insulation: basic |
| Contact - coil distance | | | | |
| • clearance | | ≥ 3 mm | ≥ 3 mm | ≥ 3 mm |
| • creepage | | ≥ 4.2 mm | ≥ 4.2 mm | ≥ 3.2 mm |

General Data

| | | | | |
|------------------------------------|--|--|--|--|
| Operating / release time (typical) | | AC: 12 ms / 10 ms; DC: 18 ms / 7 ms | AC: 12 ms / 10 ms; DC: 18 ms / 7 ms | AC: 12 ms / 10 ms; DC: 18 ms / 7 ms |
| Electrical life | | | | |
| • resistive AC1 | | > 2 x 10 ⁵ ; 10 A. 250 V AC | > 2 x 10 ⁵ ; 10 A. 250 V AC | > 2 x 10 ⁵ ; 10 A. 250 V AC |
| • cos | | see Fig. 2 | see Fig. 2 | see Fig. 2 |
| Mechanical life (cycles) | | > 2 x 10 ⁷ | > 2 x 10 ⁷ | > 2 x 10 ⁷ |
| Dimensions (L x W x H) | | 35 x 35 x 54.4 mm | 35 x 35 x 54.4 mm | 35 x 42.5 x 54.5 mm |
| Weight | | 83 g | 83 g | 95 g |
| Ambient temperature | | | | |
| • storage | | -40...+85 °C | -40...+85 °C | -40...+85 °C |
| • operating | | AC: -40...+55 °C DC: -40...+70 °C | AC: -40...+55 °C DC: -40...+70 °C | AC: -40...+55 °C DC: -40...+70 °C |
| Cover protection category | | IP 40 PN-EN 60529 | IP 40 PN-EN 60529 | IP 40 PN-EN 60529 |
| Environmental protection | | RTI PN-EN 116000-3 | RTI PN-EN 116000-3 | RTI PN-EN 116000-3 |
| Shock resistance | | 10 g | 10 g | 10 g |
| Vibration resistance | | 5 g 10...150 Hz | 5 g 10...150 Hz | 5 g 10...150 Hz |
| Solder bath temperature | | max. 270 °C | max. 270 °C | max. 270 °C |
| Soldering time | | max. 5 s | max. 5 s | max. 5 s |

DPDT

CONNECTION DIAGRAM



DIMENSIONS



3PDT

CONNECTION DIAGRAM



DIMENSIONS



4PDT

CONNECTION DIAGRAM



DIMENSIONS

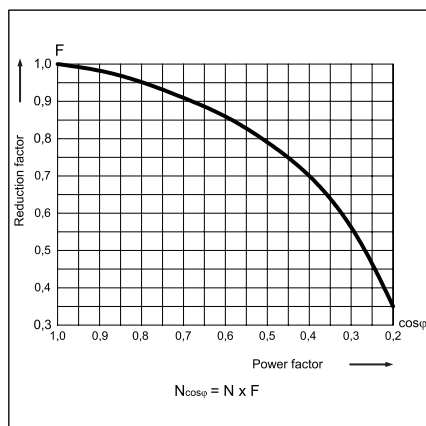


LOAD CHARTS

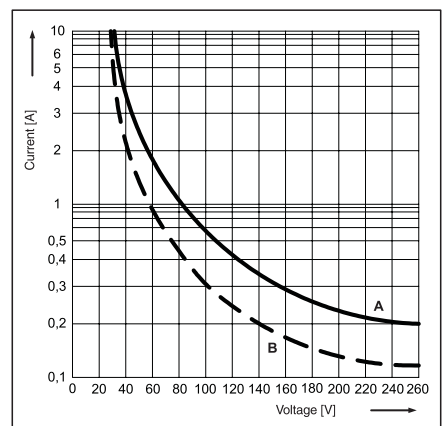
Electrical life at AC resistive load. Switching frequency: 1200 cycles/hour Fig. 1



Electrical life reduction factor at AC inductive load Fig. 2



Max. DC breaking capacity A - resistive load DC1 B - inductive load L/R = 40 ms Fig. 3



R15

Industrial Electromagnetic Relays

R15 DPDT AC 50/60Hz & DC coil

| Part Number | Coil Voltage (V) | Coil Type | Coil resistance at 20 °C in Ω | Coil operating range | | Options* | | |
|-------------------------------|------------------|------------|-------------------------------|----------------------|----------------|----------|----|-----|
| | | | | min. (at 20°C) | max. (at 55°C) | - | WT | WTL |
| ▶ R15-2012-23-1012 | 12 | DC | 110 | 9.6 | 13.2 | x | | |
| R15-2012-23-1012-WT | 12 | DC | 110 | 9.6 | 13.2 | | x | |
| R15-2012-23-1012-WTL | 12 | DC | 110 | 9.6 | 13.2 | | | x |
| ▶ R15-2012-23-1024 | 24 | DC | 430 | 19.2 | 26.4 | x | | |
| R15-2012-23-1024-WT | 24 | DC | 430 | 19.2 | 26.4 | | x | |
| ▶ R15-2012-23-1024-WTL | 24 | DC | 430 | 19.2 | 26.4 | | | x |
| R15-2012-23-1110 | 110 | DC | 9200 | 88.0 | 121.0 | x | | |
| R15-2012-23-1110-WT | 110 | DC | 9200 | 88.0 | 121.0 | | x | |
| R15-2012-23-1110-WTL | 110 | DC | 9200 | 88.0 | 121.0 | | | x |
| ▶ R15-2012-23-5024 | 24 | AC 50/60Hz | 75 | 19.2 | 26.4 | x | | |
| R15-2012-23-5024-WT | 24 | AC 50/60Hz | 75 | 19.2 | 26.4 | | x | |
| R15-2012-23-5024-WTL | 24 | AC 50/60Hz | 75 | 19.2 | 26.4 | | | x |
| ▶ R15-2012-23-5120 | 120 | AC 50/60Hz | 1910 | 96.0 | 132.0 | x | | |
| R15-2012-23-5120-WT | 120 | AC 50/60Hz | 1910 | 96.0 | 132.0 | | x | |
| ▶ R15-2012-23-5120-WTL | 120 | AC 50/60Hz | 1910 | 96.0 | 132.0 | | | x |
| ▶ R15-2012-23-5230 | 230 | AC 50/60Hz | 7080 | 184.0 | 253.0 | x | | |
| R15-2012-23-5230-WT | 230 | AC 50/60Hz | 7080 | 184.0 | 253.0 | | x | |
| R15-2012-23-5230-WTL | 230 | AC 50/60Hz | 7080 | 184.0 | 253.0 | | | x |

R15 3PDT AC 50/60Hz & DC coil

| Part Number | Coil Voltage (V) | Coil Type | Coil resistance at 20 °C in Ω | Coil operating range | | Options* | | |
|-------------------------------|------------------|------------|-------------------------------|----------------------|----------------|----------|----|-----|
| | | | | min. (at 20°C) | max. (at 55°C) | - | WT | WTL |
| ▶ R15-2013-23-1012 | 12 | DC | 110 | 9.6 | 13.2 | x | | |
| R15-2013-23-1012-WT | 12 | DC | 110 | 9.6 | 13.2 | | x | |
| R15-2013-23-1012-WTL | 12 | DC | 110 | 9.6 | 13.2 | | | x |
| ▶ R15-2013-23-1024 | 24 | DC | 430 | 19.2 | 26.4 | x | | |
| R15-2013-23-1024-WT | 24 | DC | 430 | 19.2 | 26.4 | | x | |
| ▶ R15-2013-23-1024-WTL | 24 | DC | 430 | 19.2 | 26.4 | | | x |
| R15-2013-23-1110 | 110 | DC | 9200 | 88.0 | 121.0 | x | | |
| R15-2013-23-1110-WT | 110 | DC | 9200 | 88.0 | 121.0 | | x | |
| R15-2013-23-1110-WTL | 110 | DC | 9200 | 88.0 | 121.0 | | | x |
| ▶ R15-2013-23-5024 | 24 | AC 50/60Hz | 75 | 19.2 | 26.4 | x | | |
| R15-2013-23-5024-WT | 24 | AC 50/60Hz | 75 | 19.2 | 26.4 | | x | |
| R15-2013-23-5024-WTL | 24 | AC 50/60Hz | 75 | 19.2 | 26.4 | | | x |
| ▶ R15-2013-23-5120 | 120 | AC 50/60Hz | 1910 | 96.0 | 132.0 | x | | |
| R15-2013-23-5120-WT | 120 | AC 50/60Hz | 1910 | 96.0 | 132.0 | | x | |
| ▶ R15-2013-23-5120-WTL | 120 | AC 50/60Hz | 1910 | 96.0 | 132.0 | | | x |
| ▶ R15-2013-23-5230 | 230 | AC 50/60Hz | 7080 | 184.0 | 253.0 | x | | |
| R15-2013-23-5230-WT | 230 | AC 50/60Hz | 7080 | 184.0 | 253.0 | | x | |
| R15-2013-23-5230-WTL | 230 | AC 50/60Hz | 7080 | 184.0 | 253.0 | | | x |

R15 4PDT AC 50/60Hz & DC coil

| Part Number | Coil Voltage (V) | Coil Type | Coil resistance at 20 °C in Ω | Coil operating range | | Options* | | | |
|-----------------------------|------------------|-----------|-------------------------------|----------------------|----------------|----------|---|----|-----|
| | | | | min. (at 20°C) | max. (at 55°C) | - | K | WT | WTL |
| R15-1014-23-1012 | 12 | DC | 110 | 9.6 | 13.2 | x | | | |
| R15-1014-23-1012-K | 12 | DC | 110 | 9.6 | 13.2 | | x | | |
| R15-1014-23-1012-L | 12 | DC | 110 | 9.6 | 13.2 | | | x | |
| R15-1014-23-1012-D | 12 | DC | 110 | 9.6 | 13.2 | | | | x |
| R15-1014-23-1024 | 24 | DC | 430 | 19.2 | 26.4 | x | | | |
| R15-1014-23-1024-K | 24 | DC | 430 | 19.2 | 26.4 | | x | | |
| ▶ R15-1014-23-1024-L | 24 | DC | 430 | 19.2 | 26.4 | | | x | |
| R15-1014-23-1024-D | 24 | DC | 430 | 19.2 | 26.4 | | | | x |
| R15-1014-23-1110 | 110 | DC | 9200 | 88.0 | 121.0 | x | | | |
| R15-1014-23-1110-K | 110 | DC | 9200 | 88.0 | 121.0 | | x | | |
| R15-1014-23-1110-L | 110 | DC | 9200 | 88.0 | 121.0 | | | x | |
| R15-1014-23-1110-D | 110 | DC | 9200 | 88.0 | 121.0 | | | | x |
| R15-1014-23-3024 | 24 | AC 50Hz | 72 | 19.2 | 26.4 | x | | | |
| R15-1014-23-3024-K | 24 | AC 50Hz | 72 | 19.2 | 26.4 | | x | | |
| R15-1014-23-3024-L | 24 | AC 50Hz | 72 | 19.2 | 26.4 | | | x | |
| R15-1014-23-3024-D | 24 | AC 50Hz | 72 | 19.2 | 26.4 | | | | x |
| R15-1014-23-3120 | 120 | AC 50Hz | 2300 | 96.0 | 132.0 | x | | | |
| R15-1014-23-3120-K | 120 | AC 50Hz | 2300 | 96.0 | 132.0 | | x | | |
| R15-1014-23-3120-L | 120 | AC 50Hz | 2300 | 96.0 | 132.0 | | | x | |
| R15-1014-23-3120-D | 120 | AC 50Hz | 2300 | 96.0 | 132.0 | | | | x |
| R15-1014-23-3230 | 230 | AC 50Hz | 7900 | 184.0 | 253.0 | x | | | |
| R15-1014-23-3230-K | 230 | AC 50Hz | 7900 | 184.0 | 253.0 | | x | | |
| R15-1014-23-3230-L | 230 | AC 50Hz | 7900 | 184.0 | 253.0 | | | x | |
| R15-1014-23-3230-D | 230 | AC 50Hz | 7900 | 184.0 | 253.0 | | | | x |
| R15-1014-23-6120 | 120 | AC 60Hz | 2000 | 96.0 | 132.0 | x | | | |
| R15-1014-23-6120-K | 120 | AC 60Hz | 2000 | 96.0 | 132.0 | | x | | |
| ▶ R15-1014-23-6120-L | 120 | AC 60Hz | 2000 | 96.0 | 132.0 | | | x | |
| R15-1014-23-6120-D | 120 | AC 60Hz | 2000 | 96.0 | 132.0 | | | | x |
| R15-1014-23-6230 | 230 | AC 60Hz | 7000 | 184.0 | 253.0 | x | | | |
| R15-1014-23-6230-K | 230 | AC 60Hz | 7000 | 184.0 | 253.0 | | x | | |
| R15-1014-23-6230-L | 230 | AC 60Hz | 7000 | 184.0 | 253.0 | | | x | |
| R15-1014-23-6230-D | 230 | AC 60Hz | 7000 | 184.0 | 253.0 | | | | x |

WT = with mechanical indicator + lockable front test button; WTL = with mechanical indicator + lockable front test button + light indicator (LED)
 K = with test button without block function; L = with light indicator (LED); D = with surge suppression element (diode); other options available upon request

▶ **BOLD** - Regular stocked items.

GZP8 for R15 DPDT

Screw terminals
 Max. tightening moment for the terminal: 0.5 Nm
 35 mm rail mount
 acc. to PN-EN 60715
 or on panel mounting
 73 x 38.2 x 27.2 mm Two poles
 12 A, 300 V AC



GZP8

CONNECTION DIAGRAM



DIMENSIONS



E22891



Time module COM3T



GZP-0035



GZP-0054

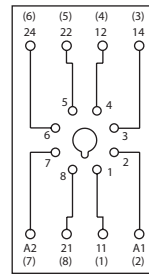
PZ8 for R15 DPDT

Screw terminals
 Max. tightening moment for the terminal: : 0.7 Nm
 35 mm rail mount
 acc. to PN-EN 60715
 or on panel mounting
 68.2 x 38 x 24.2 mm
 Two poles
 10 A, 250 V AC



PZ8

CONNECTION DIAGRAM



DIMENSIONS



E105728



PZ11 0031

GZP11 for R15 3PDT

Screw terminals
 Max. tightening moment for the terminal: : 0,5 Nm
 35 mm rail mount
 acc. to PN-EN 60715
 or on panel mounting
 73 x 38.2 x 27.2 mm
 Three poles
 12 A, 300 V AC



GZP11

CONNECTION DIAGRAM



DIMENSIONS



E22891



Time module COM3T



GZP-0035



GZP-0054

All accessories are sold separately.

R15

Industrial Electromagnetic Relays - Plug-in Sockets and Accessories

PZ11 for R15 3PDT

Screw terminals
 Max. tightening moment
 for the terminal: : 0.7 Nm
 35 mm rail mount
 acc. to PN-EN 60715
 or on panel mounting
 68.2 x 38 x 24.2 mm
 Three poles
 10 A, 250 V AC



PZ11



PZ11 0031

CONNECTION DIAGRAM



DIMENSIONS



E105728

GZ14U for R15 4PDT

Screw terminals
 Max. tightening moment
 for the terminal: : 0.7 Nm
 35 mm rail mount
 acc. to PN-EN 60715
 96.8 x 46.2 x 33.3 mm
 Four poles
 10 A, 250 V AC



GZ14ZU



GZ14 0737

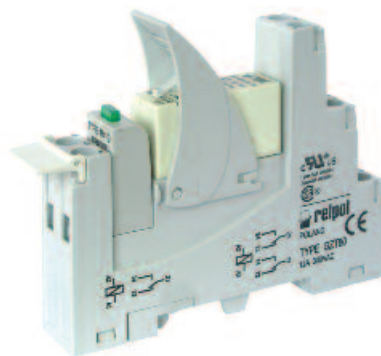
CONNECTION DIAGRAM



DIMENSIONS



See Relay Socket Combinations on pages 104-109



All accessories are sold separately.

Altech Custom Assemblies



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